

PATENT ABSTRACTS OF JAPAN

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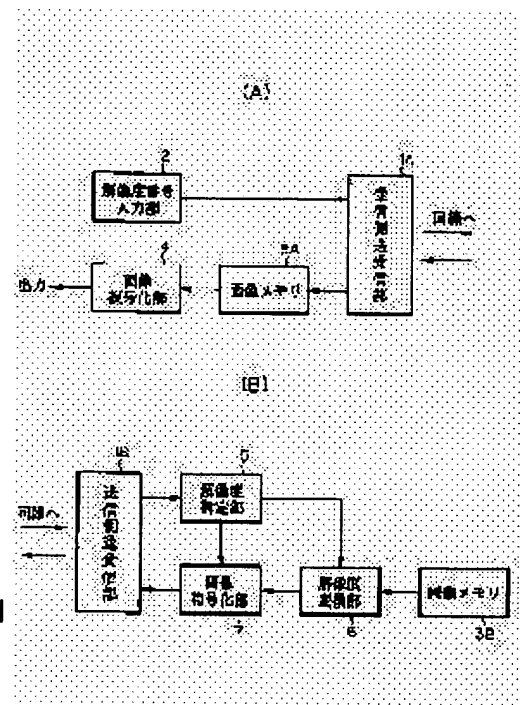
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(54) TRANSMITTER FOR IMAGE WITH DESIGNATED RESOLUTION

(57)Abstract:

PROBLEM TO BE SOLVED: To diversify ciphering performance by selecting image quality according to the needs by the user side in the image communication terminal equipment such as a video telephone set connected to a line.

SOLUTION: Image quality designation data designated by a password by a resolution number entry section 2 at an image receiver side A are sent from a receiver side transmission reception section 1A to an image transmitter side B, a resolution conversion section 6 is controlled by the designated data and the image quality of an original image in an image memory 3B is converted and the result is coded by an image coding means 7C and sent from a transmitter side transmission reception section 1B. The receiver side decodes coded image data from the transmitter side at an image decoding section 4 and the image is displayed.



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the picture transmission equipment which transmits and receives the image of the specific image quality specified in the password which only the user who can know a password in a password (unique WORD) inputted, and displayed it on the detail more about the picture transmission equipment which can be used for Charge TV, TV meeting, or TV telephone etc. which transmits and receives a dynamic image or a still picture.

[0002]

[Description of the Prior Art] In the charge TV which can be illustrated as this kind of a conventional technique, TV meeting, and TV telephone, generally, image data is encoded and transmitted from the terminal of a transmitting side, the terminal of a receiving side decrypts received data, and image data is decoded. However, it is hard to say that it excels in unknown episode nature these days when the algorithm of a sign decryption is standardized. In recent years as the transmission approach of TV meeting or TV telephone that the measures against a transmission unknown episode are taken The terminal which the personal identification number was attached to the encoded image data, and was transmitted and received extracts a personal identification number from received data. With reference to the personal identification number registered beforehand and the attached personal identification number, when in agreement, receiving image data is decrypted, and if not in agreement, it does not decrypt, but the system which makes impossible possible decode of the image data in a perfect form by the coincidence inequality of a personal identification number is invented. However, by the above-mentioned approach, selection of two kinds of not /Carrying out [which encodes the image data which received by the personal identification number] is made.

[0003]

[Problem(s) to be Solved by the Invention] By the approach of attaching a personal identification number to the encoded image data as the transmission approach in TV meeting where the conventional measures against a transmission unknown episode are taken, or TV telephone, as mentioned above, it /Was selection of two kinds of not carrying out, and was not what responds to the various needs in a user for which the image data which received by the personal identification number is encoded. This invention is what was made in view of the trouble in such a conventional technique. In the image communication terminal which can transmit and receive voice data and image data, for example, was connected to the circuit in Charge TV, TV telephone, etc. In order to make it possible to choose the image quality (resolution) of the image to display from some phases It encodes so that image quality may serve as screens of some phases, such as the case of resolution, for example, a low resolution / inside resolution / high resolution etc., and transmit and receive by maintaining an unknown episode condition. In a user side In the pictorial communication terminal which was made to display the screen of the resolution chosen according to the needs, and was similarly connected to the circuit, make it possible to perform selection to which the area of the part which changed the image quality of image data is changed, and let it be the technical problem which should be solved to achieve diversification of

unknown episode nature.

[0004]

[Means for Solving the Problem] An image quality the-data input means by which invention of claim 1 inputs image quality the data into an image receiving side, A transceiver means by which the image quality the data which received coded-image data and were specified by said image quality the-data input means can be transmitted, An image coding means to encode the image which was equipped with an image decryption means to decrypt the coded-image data received with this transceiver means, and was changed into the image transmitting side by the image quality conversion means of a subject-copy image, and this image quality conversion means, A transceiver means by which the image data encoded by said image coding means can be transmitted, and said image quality the data can be received, Said image quality the data which received are judged, and it has the control means which controls said image quality conversion means and said image coding means based on the result.

[0005] Invention of claim 2 is equipped with an image decryption means decrypt the coded-image data received to the image receiving side, an image-quality conversion means change data from which image quality is changed in the image data decrypted by this image decryption means, an image-quality the-data input means input image-quality the data, and the control means that controls said image-quality conversion means according to the input data from this image-quality the-data input means.

[0006] In claim 1 or invention of 2, invention of claim 3 presupposes that a setup of the field of the image to which image quality is changed is possible for said image quality conversion means, and specifies the field by said image quality the data.

[0007] Invention of claim 4 uses the data which choose resolution as said image quality the data in invention of claim 1 thru/or either of 3.

[0008] Invention of claim 5 specifies the number of bits repealed in the bit string of the unit data of image data as data which choose said resolution, and its location in invention of claim 4.

[0009] Invention of claim 6 uses code data as said image quality the data in invention of claim 1 thru/or either of 5.

[0010]

[Embodiment of the Invention] The operation gestalt of this invention is explained below based on an attached drawing. Drawing 1 is the block diagram showing the outline of the operation gestalt of the image transmission equipment of this invention, (A) expresses an image receiving side and (B) expresses an image transmitting side. Moreover, drawing 2 is a flow chart which shows the example of the equipment of drawing 1 of operation. In drawing 1 (A), the resolution number input section and 3A which 1A specifies resolution in the receiving-side transceiver section, and specify 2 by the number are an image memory, 4 is the image decryption section, and, for the transmitting-side transceiver section and 3B, as for the resolution judging section and 6, an image memory and 5 are [1B / a resolution transducer and 7] the image coding sections in drawing 1 (B).

[0011] If drawing 1 (A) and drawing 1 (B) explain actuation of this image transmission equipment currently made through the circuit as connection is possible according to the flow of drawing 2 It considers as the condition that connect both transceiver sections 1A and 1B to a circuit, and data are transmitted and received (step S1). First, an image receiving side It is beforehand prepared from the resolution number input section 2, or a resolution number is inputted with a dial carbon button etc., and it sends to a partner's terminal through transceiver section 1A (step S2). Here, a resolution number is set to "0123" as an example. The sent resolution number is received by transceiver section 1B of an image transmitting side (step S3), and said received resolution number "0123" is sent to the resolution judging section 3. In this resolution judging section 5, a resolution number "0123" is received, the multiplier of filtering equivalent to the resolution of the received number is determined (step S4), and it is transmitted to the resolution transducer 6. Moreover, in an image transmitting side, the image data which transmits is accumulated in image memory 3B, and the image data accumulated in transmission and coincidence of a filtering multiplier from image memory 3B is sent to the resolution transducer 6. Filtering of image data is performed in this resolution transducer 6 (step S5). For example, if it assumes that it is what specifies that suppose that said image data is 8 bit data "11010110", and said multiplier sets a bottom

triplet to "0" If it assumes that it is what specifies that the image data after filtering is set to "11010000", and another resolution number (for example, "4567") sets the 5th bit to "0" with 2 bits the bottom, image data will be set to "11000100" by said resolution transducer 6. Moreover, if another resolution number (for example, "890**") assumes that neither of the bits is changed, as it is, "11010110" will be sent to the image coding section 7, and image data will be encoded (step S6). And the encoded image data is transmitted through a circuit (step S7).

[0012] In an image receiving side, after receiving the image coded data sent in receiving-side transceiver section 1A through a circuit (step S8), it is accumulated in image memory 3A. And said image coded data is decrypted in the image decryption section 4 (step S9), and it is outputted to the processing circuit section of an image system. As mentioned above, the resolution of the image which should be sent according to the specified resolution number will be changed, will compress and transmit it, it will be elongated and image data will be displayed, it also becomes possible to adopt a personal identification number (unique WORD) as a number, the unknown episode nature of the image transmitted can be maintained, and resolution can be easily changed now.

[0013] Drawing 5 expresses the screen which displayed the image which changed resolution and was transmitted. In drawing 5, the example of a display of the screen which made resolution high is shown in the order of (A), (B), (C), and (D), and a user specifies a resolution number suitably that one screen of such resolution should be chosen. Then, the picture transmission equipment of this invention will perform actuation described above in order to obtain the image of the specified resolution.

[0014] Drawing 3 is the block diagram showing the outline of the operation gestalt of other image transmission equipment of this invention. Drawing 4 is a flow chart which shows the example of the equipment shown in drawing 3 of operation. For the resolution number input section and 13, as for the image decryption section and 15, in drawing 3, an image memory and 14 are [11 / a receive section and 12 / the resolution judging section and 16] resolution transducers. It considers as the condition that will connect a circuit to this equipment and data will be first received if actuation of this image transmission equipment currently made as connection is possible is explained to a circuit according to the flow of drawing 4 (step S11), and it is received in a receive section 11 (step S12), and the coded-image data transmitted through a circuit are stored in an image memory 13. Subsequently, image data is decrypted in the image decryption section 14 (step S15), and it is sent to the resolution transducer 16. On the other hand, an image receiving side is beforehand prepared from the resolution number input section 12, or inputs the resolution number by a dial carbon button etc. (step S13), and the multiplier of filtering to which the number corresponds in the resolution judging section 15 is judged (step S14). And the image data which mentioned the multiplier above with the filter of delivery and the specified multiplier in the resolution transducer 16 is filtered (step S16).

[0015] The value of the image data decrypted in the image decryption section 14 specifically "00111111", The bottom, if triple figures are assumed to be "0", the multiplier of filtering which corresponds the value of a resolution number to the resolution number "0123" currently beforehand prepared in "0123" and said resolution judging section 15 The multiplier to which said resolution number "0123" sets triple figures to "0" under image data in said resolution judging section 15 is sent to the image transformation section 16. Then, by the resolution transducer 16, image data is changed into "00111000" from "00111111", and is transmitted to the image system processing circuit section. As mentioned above, the resolution of the image received in the resolution according to the specified resolution number will be changed, an image will be displayed on a screen, and it is made as [change / by the personal identification number (unique WORD) / resolution of an image].

[0016] Drawing 6 is the block diagram showing the outline of the operation gestalt of other image transmission equipment of this invention. For 11, in drawing 6, a receive section and 12' of the personal identification number input section and 13 are [an image memory and 14] the image decryption sections. Moreover, for the image division section and 19, the image merge section and 18A are [17 / the buffer for image B and 16' of the buffer for image A and 18B] resolution transducers. If actuation of this picture transmission equipment currently made as connection with a circuit is possible is explained, it considers as the condition that connect a circuit to this equipment and data are received first, and it

will be received in a receive section 11 and the coded-image data transmitted through a circuit will be stored in an image memory 13. Subsequently, in the image decryption section 14, image data is decrypted and is sent to the image division section 17. On the other hand, an image receiving side is prepared beforehand, or inputs a personal identification number from personal identification number input section 12' with a dial carbon button etc., and sends it to the screen separation section 19. Here, the decryption data mentioned above are divided into image data A and image data B according to assignment of a personal identification number. In this example, each field shall be specified as the magnitude of arbitration by said personal identification number 20 in the location of arbitration, and said image data A and said image data B shall be divided. Image data A / image data B is sent to buffer 18A for image A, and buffer 18B for image B, respectively. Although image data B stored in buffer 18B for image B is sent to the image merge section 19 as it is, after resolution is changeable in resolution conversion circuit 16', image data A stored in buffer 18A for image A is sent to the image merge section 19, and is compounded with said image data A. The compounded image data is sent to the image processing circuit section, and after being processed, it is displayed on a screen.

[0017] Drawing 7 expresses the screen which displayed the image which changed the resolution of the field specified as the location and magnitude of arbitration, and was compounded. In drawing 7, (A) thru/or (C) show the example which changes the resolution of the field where a location and magnitude were specified by personal identification number different, respectively with other fields, and displayed it. As mentioned above, it becomes possible to change the resolution of the received part of the arbitration of image data according to the specified personal identification number, and to display on a screen, and can respond to diversification of the unknown episode nature of image data easily.

[0018]

[Effect of the Invention] The following effectiveness is brought about by this invention so that clearly from the above explanation.

(1) Since the multiplier of filtering is decided by the specified resolution number, enable only the user who can know a number to obtain the image of the resolution corresponding to the number from a transmitting side through a circuit, and enable only a specific user to obtain an exact image by establishing some phases.

(2) Since the video phon of a transmitting side is connectable with two or more terminals since the received image is filtered, and also the multiplier of filtering is decided by the specified resolution number, enable only the user who can know a number to obtain the image of the resolution corresponding to the number, and enable only a specific user to obtain an exact image by establishing some phases.

(3) By carrying out filter count of some received images, only the high part of unknown episode nature is made [that only the user who can know a personal identification number gets the exact image of the field of the screen part corresponding to the number, and] possible.

[Translation done.]

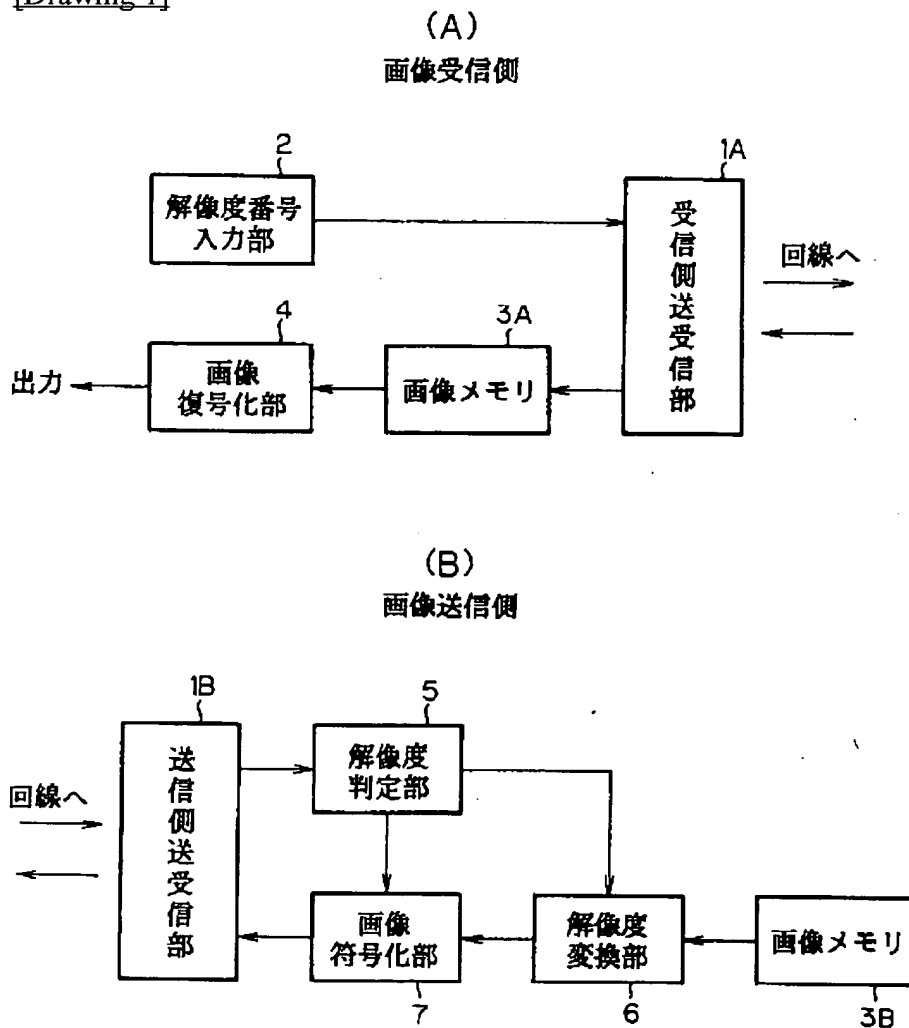
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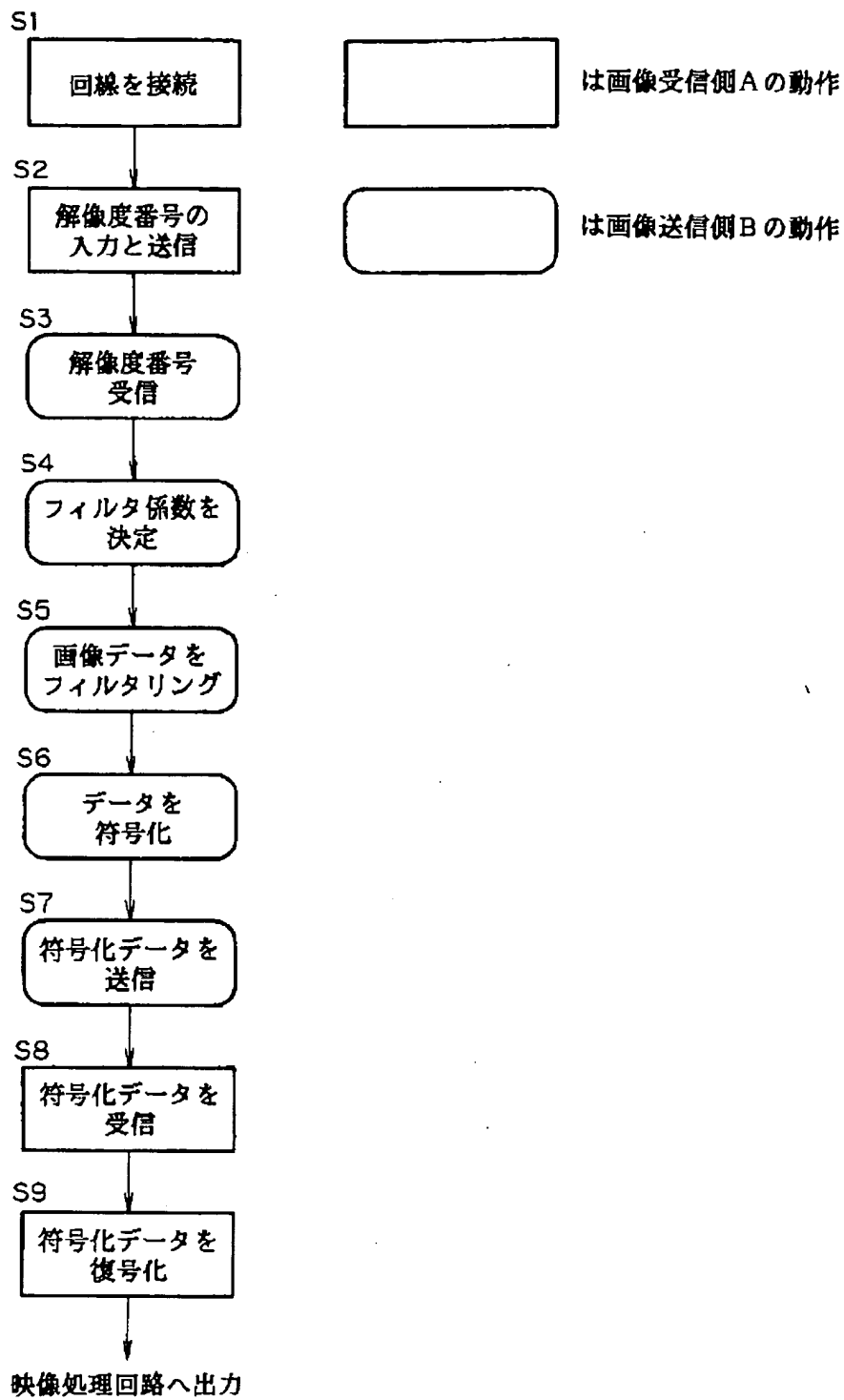
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DRAWINGS

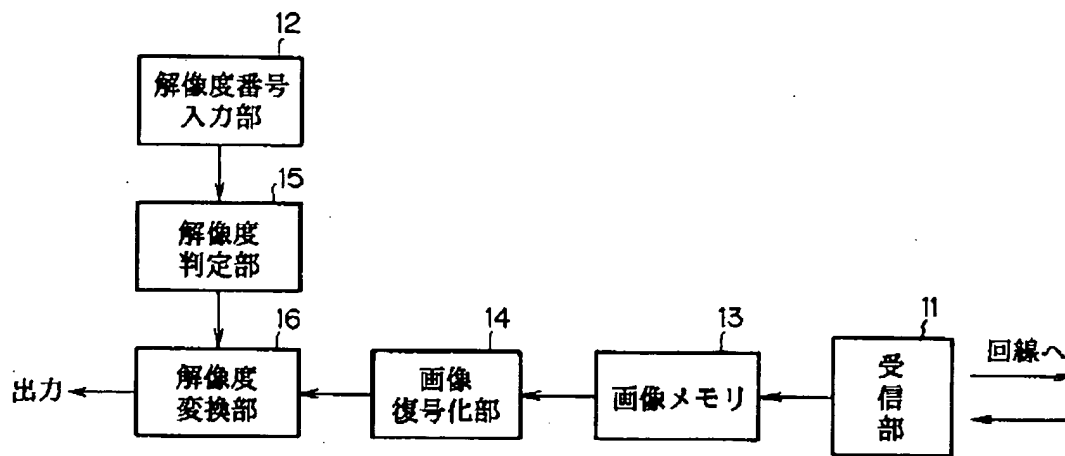
[Drawing 1]



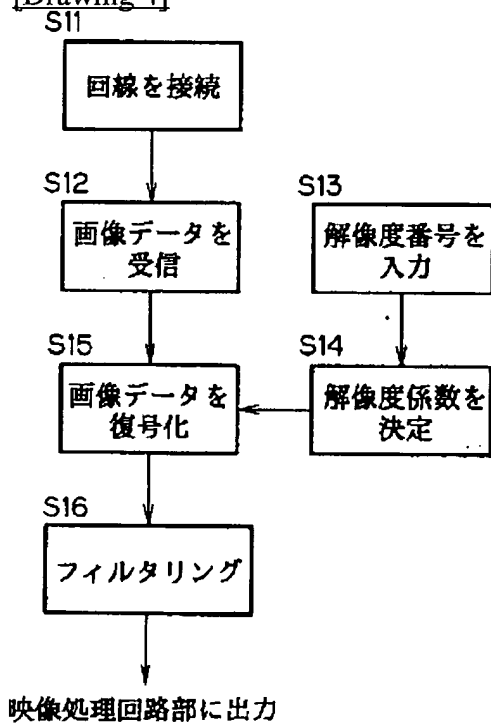
[Drawing 2]



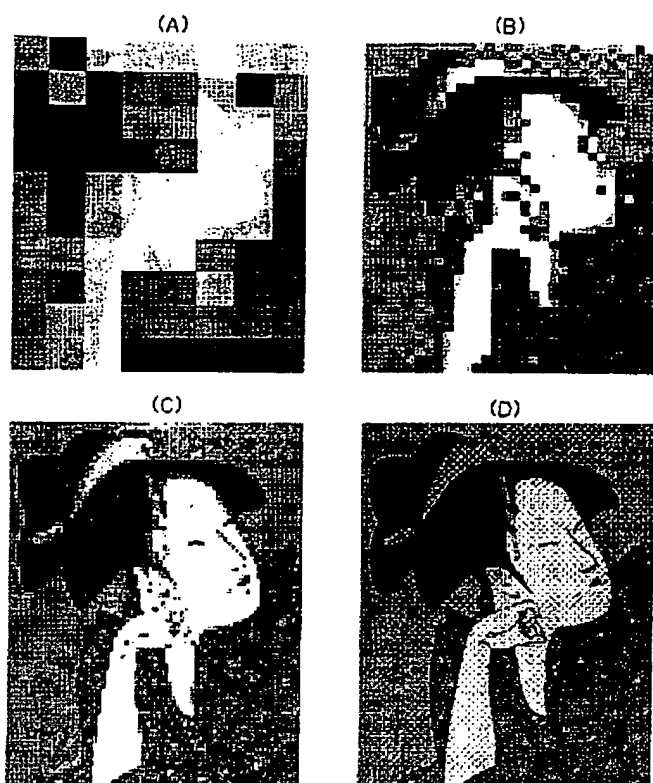
[Drawing 3]



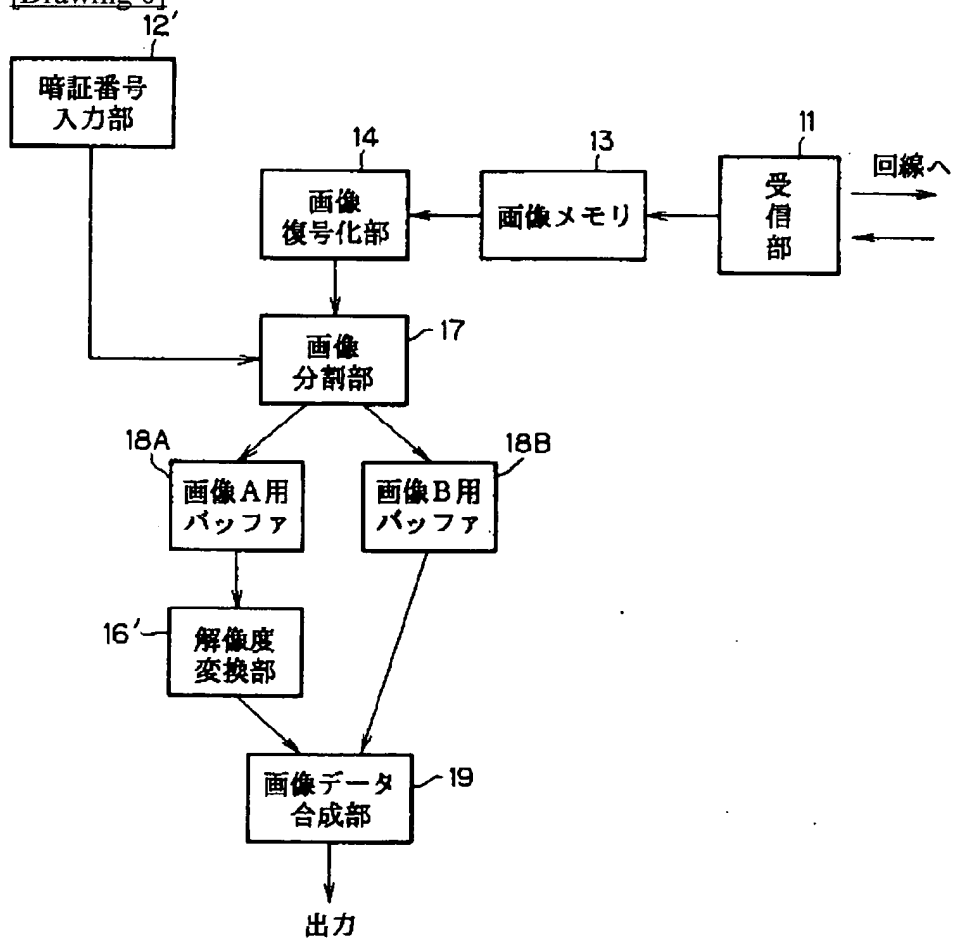
[Drawing 4]



[Drawing 5]



[Drawing 6]



[Drawing 7]

(A)



(B)



(C)



[Translation done.]